

Meeting Reports

Alpbach Workshop "Coiled-Coils, Collagen and Co-Proteins"

A Workshop on "Coiled-Coils, Collagen and Co-Proteins" is held every four years at the Boglerhof Hotel in Alpbach, Austria. The latest of these Workshops was held from September 16-21, 2001. Alpbach is a small Tyrolean town set between beautiful hills and mountains. In winter, it is a favourite spot for skiers. At other times it is an ideal place for walks, hill climbing, or taking rides on the cable car to experience the spectacular mountaintop views. The Böglerhof Hotel is well known for its friendly ambience, its very comfortable amenities and its rather too tempting cuisine. The Workshop consisted of a judicious mix of morning and evening sessions of talks and discussions, with the afternoons being free for more informal chats over walks or a glass of beer.

As on previous occasions the aim of the Workshop was to foster interaction between research workers active in all aspects of the structure and function of fibrous proteins. A particular feature of the Alpbach Workshops has been the deliberate attempt to bring together scientists who work on intracellular proteins with those whose work centres on the extracellular. The "membrane" has often proved to be a substantial barrier, not only at the cellular level, but also at the research level where it appears to inhibit collaboration and understanding between scientists. The Alpbach Workshops have been designed to lower the energy barrier between these different communities and in many ways they have achieved their aims. The cross-fertilisation of ideas that has arisen from the formal and informal discussions at the Workshops has far exceeded expectations. Alpbach 2001 was no exception.

The 2001 Alpbach Workshop was held very soon after the terrorist attacks on the World Trade Center in New York and on the Pentagon in Washington DC. Many scientific meetings were cancelled around that time and, indeed, many others were cancelled in the following months. The Alpbach Fibrous Protein Workshop, however, carried on virtually as planned and proved to be just as successful as its predecessors. The attendance of delegates was in excess of 90% of those who had registered - a tremendous tribute to all who came, especially those who made major efforts to fly from the USA by

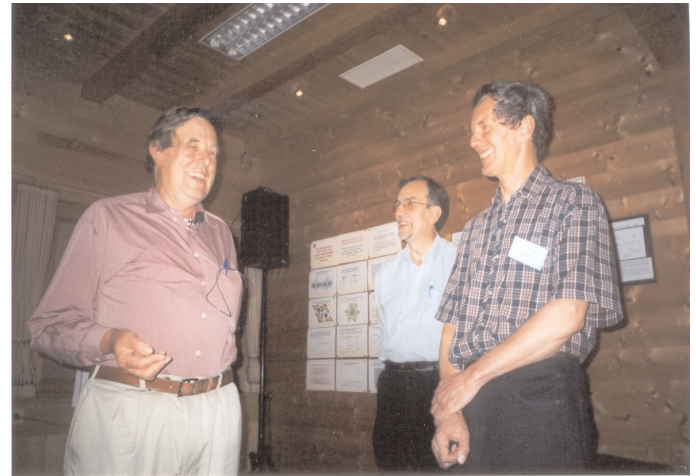
whatever route they could find. The latter faced some real challenges, but showed great determination to participate. Very few decided not to come. This really is a great tribute to scientists in general and to the individuals concerned in particular in that they refused to be intimidated.

As with previous Alpbach Workshops, we selected an eminent scientist as our Guest of Honour to whom we could pay special tribute. This time we were fortunate to have with us Jürgen Engel from the Biozentrum in Basel. Jürgen has established himself as a truly international figure in the fields of connective tissue and α -fibrous protein research. Not only is he a notable scientist, but he is a very special person - a humanitarian who really cares about the way society treats all its citizens. It was a privilege for all us to have him with us at Alpbach and to hear his presentation.

The main scientific sessions were carefully organized by the nominated Chairpersons to be up-to-the-minute reflections of their particular topics. Richard Kammerer (Manchester, UK) chaired the first session on "Coiled-Coils/ Triggers" including talks from Dek Woolfson and Andrei Lupas. On Monday morning Ueli Aebi (Biozentrum, Basel) chaired a session on "Coiled-Coil Structures: Crystals and Models" with Peter Burkhard, David Helfman, Bob Hodges, Marcus Meier, Jenny Shipway and Valeria de Marco. At the start of the evening session, because he had to leave early in the Workshop, Reinhard Jahn gave an interesting talk on vesicle fusion complexes. There followed two muscle sessions chaired by John Squire (Imperial College, London). The first on Monday evening covered "Myosin Filaments, including Titin, C-protein and Paramyosin" with talks by John, Siegfried Labeit and Mathias Gautel. The second on Tuesday morning was on "Actin Filaments, including Tropomyosin, Troponin, Nebulin, α -actinin" with talks by Toshiro Oda, Robin Maytum, Wolfgang Linke, Olga Mayans, Henk Granzier, Annalisa Pastore, Pradeep Luther and Dieter Furst. We then concentrated on Tuesday evening on "3-Strand Coiled-Coils and Non-Muscle Actin Motors" chaired by John Kendrick-Jones, with Dieter Furst, Steve Winder, Martin Bahler and Andrew



Juergen Engel (left) starting to open his Guest of Honour 'Gift' from one of the organisers David Parry.



Juergen Engel (left) responding to his introduction as the Guest of Honour at the Alpbach Workshop, with the organisers David Parry (right) and John Squire.

Sutherland-Smith. On Wednesday morning we moved on from myosin motors to a session on "Microtubules and Non-Myosin Motors" chaired by Eckhard Mandelkow (Max Planck, Hamburg) with Michel Steinmetz, Keiichi Namba and Andy Hoenger. After this long series on coiled-coils and motor proteins in their great varieties we then moved away from motors with an evening session chaired by Alasdair Steven (NIH, Washington) on "Coiled-Coils in Molecular Recognition/ Beta Structures" with Anna Mitraki, Vadim Mesyanzhinov, Mark van Raaij, Ismael Moraefi and Andrei Lupas.

By this time it was Thursday, which started with sessions on "Intermediate filaments" chaired jointly by Peter Steinert (NIH, Washington) and David Parry (Massey University, New Zealand). Apart from their own contributions, their main speakers included, in the first part of the session, Sergei Strelkov, Harald Herrmann and Laurent Kreplak, and in an early

afternoon session, Gerhard Wiche, Sakuhei Fujiwara, Roland Foisner and Joseph Gruenbaum. We then enjoyed Juergen Engel's "Special Lecture", when he spoke about an unusual collagen in Hydra. After the lecture we indulged in what the Boglerhof Hotel call a "Romantik Dinner", with splendid food served along with live musical accompaniment in a very friendly atmosphere. On Friday we came back to other serious business with two sessions on "Collagen and Connective Tissue". The first was chaired by Andrew Miller (then at the University of Stirling, Scotland) who had as speakers Kenji Okuyama, Hans Peter Bachinger, David Hulmes, Tim Wess and Carlo Knupp. The afternoon session, kindly chaired at short notice by David Hulmes (Institute of Biology and Chemistry of Proteins, Lyon, France) had contributions from Ruggero Tenni, Barry Oakes and John Ramshaw.

Many of the fascinating fibrous protein studies reported at the Workshop are being collected in a special issue of the Journal of Structural Biology to be published in the summer of 2002. The previous Workshop gave rise to a similar, very successful, special issue (J. Structural Biology 122, 1998). We are grateful to the publishers of the Journal, Academic Press, as well as to the Biological Structure and Function Section, Faculty of Medicine, Imperial College, London, UK for generously sponsoring the Workshop.

In summary, although we very much missed those who in the end could not come, the Workshop proved to be a splendid occasion, both scientifically and socially, in which many new friendships and collaborations were developed. It was agreed that there should definitely be another "Coiled-Coils, Collagen and Co-Proteins" Workshop in September, 2005. Make a note in your diaries.

John Squire

223rd National American Chemical Society Meeting, Orlando, Florida, April 2002

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The 223rd national ACS meeting was held in the Orange County Convention Centre on International Drive in Orlando. With more than 11,000 delegates and countless parallel sessions, the meeting covered a huge diversity of scientific activity. Of particular interest to the fibre diffraction and NCD communities were the sessions connected to the Division of Polymer Chemistry organised by John Blackwell (Case Western Reserve University) and Kenn Gardner (Dupont, USA). The sessions were very well organised and the quality of the presentations was extremely high throughout.

The topics covered a wide range of technical issues in fibre/polymer diffraction as well as recent scientific results. Perhaps the most striking thing about the meeting was the fact that just about every presentation highlighted the importance of combining different techniques in probing structure/function/property relationships. In addition to a number of presentations illustrating how x-ray, neutron and electron diffraction methods can provide powerful insights into polymer structure (Takahashi, Langan, Forsyth, Puigalli, Martin) there were many talks describing how results from electron microscopy (Namba)/spectroscopy are brought to bear on these problems. The presentation from Mahendrasingam on biaxial deformation of polymers also illustrated the importance of being able to record both low and high angle data simultaneously (as did that of Baltá Calleja). In the Biopolymers session Kirschner and Mitraki both gave exciting reports on amyloid structures, and Zugenmaier, Chandrasekaran, and French talked

about fibre diffraction work on polysaccharides. There were also some excellent presentations in the Structure Evolution session. Harrison's presentation on Teaching Diffraction Methods with Flash Movies was very well received as were the talks of Kornfield (shear induced crystallisation), and Chvalun (deformation studies of polyethylene). The talk of Riekel on Kevlar fibres and of the variation of crystallite orientation and of the skin-core effect was a reminder of the remarkable scope of microbeam x-ray diffraction studies that are now possible. The Polymer Blends session also contained some excellent talks: Ryan and Xu talked about crystallisation in block copolymers and there were interesting presentations from Cheng, Borsali, Zhu and Kwon. In the final sessions on Structure Determination there were presentations from Farmer, Marchessault, Lotz, Winokur, Dosiere, Cebe, Ran, and Burger.

Trevor Forsyth



Left to right: Trina Gardner, Kenn Gardner, Anna Mitraki, Dan Kirschner, Trevor Forsyth wield minigolf clubs during an informal breakout session in Orlando.